

Appendix III

GIS Data and Programs

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GIS data used in this analysis has been derived from publicly available data sets and from data sets created by Northwest Management, Inc. All GIS derived data (information created during analysis and GIS processing) was created by Northwest Management, Inc. Dr. William E. Schlosser was responsible for gathering all GIS data and coordinating GIS processing.

Specifically the following GIS layers were most useful:

- Digital Elevation Models in 200 meter resolution
- Digital Elevation Models in 30 meter resolution
- Digital Elevation Models in 10 meter resolution
- Census of the state of Idaho-2000 by County with county boundaries
- Hydrology of the State of Idaho
- Digital-ortho quadrangle photos of Shoshone County
- Land Cover Classifications of the State of Idaho
- Road Networks in Idaho and Shoshone County
- Land Ownership of Idaho
- Precipitation levels in Idaho
- Railroad lines in Idaho
- Soil types of Idaho
- Solar Radiation estimates for Idaho
- High temperature measurements in Idaho
- Wind speed and direction measurements in Idaho
- Aspect map of Shoshone County
- Hillshade map of Shoshone County
- Slope map of Shoshone County
- Building locations in Shoshone County
- Community locations in Shoshone County
- Fire Districts' coverage in Shoshone County
- Community buffer zones

- Home site density indexes
- Home site distribution with buffer zones
- Fire ignition probability maps
- Fire spread potential probability maps
- Riparian zone maps
- Target areas for fire mitigation efforts

All of these GIS layers have been made available for downloading or ordering from a project Internet web site at <http://www.shoshone-fire-plan.org/> (Appendix IV). The data is made available for anyone to download at no charge for data. A small fee is collected for creating CD ROM and mailing them to those who request it.

GIS data processing has been completed on computers using the Windows98 and Windows2000 Professional operating systems. The primary GIS processing computer uses an Athalon G7 series motherboard with dual 2000 Mhz processors, 2 Gigabytes of RAM, and high-speed-striped high-volume storage devices. Two GIS platforms have been used; ESRI ArcVIEW 3.3 and ESRI ArcGIS 8.2. All data used and created during this analysis is compatible with both GIS systems.

Forest growth modeling and stand suitability analysis has been completed using the Landscape Management System (LMS) version 2.0.45 software. This software uses the North Idaho variant of the Forest Vegetation Simulator (FVS) for growth modeling, the Stand Visualization System (SVS) for stand visualization, and the USFS program EnVision for landscape visualizations. The Fire Fuels Extension (Beukema *et. al* 2002) was used to evaluate fire risk based on stand inventories.